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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,309	09/21/2004	Richard T Chou	AD6800USPCT1	6111

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Legal Patent  
Wilmington, DE 19805

EXAMINER
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HU, HENRY S

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 11/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/501,309

Applicant(s)

CHOU ET AL.

Examiner.

Henry S. Hu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Oath & Declaration of September 21, 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) 1-6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This Office Action is in response to Oath & Declaration filed on September 21, 2004.

**Claims 1-6 are now pending with a total of six independent claims (Claims 1-6).** An action follows.

#### *Specification*

2. The disclosure is objected to because of the following informalities:

On **page 8** at lines 25-27, sentence of “methods for polymerization or copolymerization of polyethylene polymers and copolymers” is improper and it is suggested to change to “methods of polymerization or copolymerization for making polyethylene polymers and copolymers”.

Otherwise, it may be confusing to one having ordinary skill in the art.

#### *Claim Objections*

3. Claims 1-6 are objected to because of the following informalities:

On each of **Claims 1-6** at line 8, recitation of “(1) the fluorine-containing comonomers” may be improper and may be changed to “the fluorine-containing comonomers” by removing (1) for clarification. Otherwise, it may be confusing to one having ordinary skill in the art since there is a set of numbering such as “(i), (ii) and (iii)” inside the same claim.

### ***Double Patenting***

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-6 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-25 of **US Patent No. 6,953,830 B2 to Chou** (with the same Assignee and an effective 102(e) priority date March 7, 2001).

This is an **obviousness-type double patenting rejection** because the conflicting claims have been patented. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant application is fully disclosed in the referenced patent as follows:

5. **All Parent Claims 1-6** of present invention relate to a film, a fiber, an article, a microporous membrane, a flash spun plexifilamentary product or a melt spun fibrous article which each comprises a fluorine containing ethylene copolymer (FCEC) obtained by the copolymerization of ethylene with suitable fluorine-containing comonomer compounds, wherein the FCEC comprising from about "0.5-40 wt% of a fluorine-containing comonomer compound"

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and from about “30-99.5 wt% ethylene”. The fluorine-containing comonomers are fluorinated acrylate or methacrylate esters of the general formula of  $\text{Cf-L-O-CO-CR=CH}_2$ , wherein Cf and R are as specified in Claim 1; and wherein L is a linking group selected from the group consisting of arylene, arylalkylene, sulfonyl, sulfoxy, sulfonamide, carboxyamino, carbonyloxy, urethanylene, and combinations thereof.

In a close examination, **Claims 1-25 in US Patent No. 6,953,830 B2 to Chou** only uses two specific sulfonamide for linking group L but is found to be related to the same or similar type of copolymer as instance application. It is obvious to be useful in making various articles such as film, fiber, spun fiber, blend and composite according to Chou’s statement (see column 5, line 7-41; column 4, line 21-22). It is noted that the genus “sulfonamide” used in instant application is covering the use of those two specific sulfonamide species related to Chou.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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7. The limitation of parent **Claim 1** in present invention relates to a film comprising a fluorine containing ethylene copolymer (**FCEC**) obtained by the copolymerization of ethylene with suitable fluorine-containing comonomer compounds, wherein the FCEC comprising from about "0.5-40 wt% of a fluorine-containing comonomer compound" and from about "30-99.5 wt% ethylene", wherein: the fluorine-containing comonomers are fluorinated acrylate or methacrylate esters of the general formula of  $Cf-L-O-CO-CR=CH_2$ , wherein Cf and R are as specified in Claim 1; and wherein L is a linking group selected from the group consisting of arylene, arylalkylene, sulfonyl, sulfoxy, sulfonamide, carboxyamino, carbonyloxy, urethanylene, and combinations thereof. Each of other five parent **Claims 2-6** relates to a fiber, an article, a microporous membrane, a flash spun plexifilamentary product and a melt spun fibrous article comprising the copolymer of Claim 1.

8. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Chou (US 6,953,830 B2 with the same assignee and an effective priority date March 7, 2001).

Regarding the limitation of all parent **Claims 1-6**, Chou has already disclosed the same type of dipolymer (FCEC) made from two monomers including ethylene and monomer of  $Cf-L-O-CO-CR=CH_2$  with the same weight ratio but only using two specific sulfonamide for linking group L. Chou further discloses that such a copolymer can be used to make various articles such as film, fiber, spun fiber, blend and composite according to Chou's statement (see column 5, line 7-41; column 4, line 21-22). It is noted that both two specific "sulfonamide"

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species in L linking group by Chou are covered by genus "sulfonamide" used in instant application. Therefore, Chou anticipates the limitation of all parent Claims 1-6.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada et al. (US 4,778,866) in view of Chou (US 6,953,830 B2).

Regarding the limitation of all parent **Claims 1-6**, **Shimada et al.** have disclosed a process for making film, laminate, blend and composite by using **an ethylene copolymer**

**comprising ethylene and an ester-type acrylic monomer selected from formula (I) or (II)**

(abstract, line 1-25; column 2, line 35-59 column 6, line 48-68). The total ester with formula (I) or (II) is present in an amount of range from **0.001 to 10 mole%** (abstract, bottom 6 lines; column 2, line 59-60), **which is overlapping with the claimed weight ratio with 30-99.5 wt% ethylene by conversion.**

11. Although **R<sup>2</sup> in formula (I) may be perfluoroalkyl group with Carbon atoms at 1-15** (column 2, line 46-47), the Shimada reference is silent about using specific ester monomer from “arylene, arylalkylene, sulfonyl, sulfoxy, sulfonamide, carboxyamino, carbonyloxy, urethanylene, and combinations thereof” on the L linking group. **Chou** has taught that in the course of making various types of ethylene copolymer with the same or similar monomeric weight ratio, various acrylic ester co-monomers with arylene, arylalkylene, sulfonyl, sulfoxy, sulfonamide, carboxyamino, carbonyloxy, urethanylene as L linking group can be used (column 3, line 38-64). By doing so, same or similar articles including film, fiber, spun fiber, blend and composite can be effectively produced (column 4, line 18-24; column 5, line 7-41).

In light of the fact that **dipolymers** (FCEC) produced by both involved references are containing fundamentally the same **ethylene and similar type of ester-type acrylic monomers** (related to the same genus) which can be with overlapping monomeric weight ratio, one having ordinary skill in the art would have therefore found it obvious to **modify Shimada’s polymerization process by replacing L linking group inside the ester monomer with arylene, arylalkylene, sulfonyl, sulfoxy, sulfonamide, carboxyamino, carbonyloxy or**



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**urethanylene** as taught by Chou based on functional equivalence and interchangeability. One would expect all the embodiments in the same genus would succeed. One Additional advantage is to obtain the same or similar articles in the form of film, fiber, spun fiber, blend and composite.

### *Conclusion*

12. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. The following references relate to article made from a fluorine containing ethylene copolymer (FCEC) obtained by the copolymerization of ethylene with a comonomer of  $C_r-L-O-CO-CR=CH_2$  with L as specified:

**US Patent No. 5,582,918 to Gouarderes** only discloses the preparation of FCEC copolymers of **ethylene** and a fluorinated alkyl acrylate monomer having a specific formula of  $CH_2=CR-COO-(CH_2)_2-C_nF_{2n+1}$  (abstract, line 1-12). No co-monomer with the claimed L linking group is used.

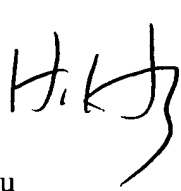
**US Patent No. 5,210,166 to Ziegler et al.** only discloses the preparation of FCEC copolymers of **ethylene** and a polyalkylene glycol (meth)acrylate monomer having a specific formula (abstract, line 1-7; column 2, line 3-28). No co-monomer with the claimed L linking group is used.

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13. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Dr. Henry S. Hu** whose telephone number is **(571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The fax number for the organization where this application or proceeding is assigned is **(571) 273-8300** for all regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Henry S. Hu

Patent Examiner, art unit 1713, USPTO

November 21, 2005

  
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